the student of generic forms. A coloured geological map of the British Isles is also included.

We have mentioned the illustrations at the outset, since the greater number are the work of the author, and he depends much on them in the physiographic portion of the book. Those of glacial phenomena seem especially excellent. May we, however, mildly protest once more at the translation of *roches moutonnées* as "sheep-back rocks" on p. 103?

The use of parts of British Ordnance maps to illustrate geographical features is in pleasant keeping with what has been done in recent text-books in America. But we venture to question whether a book of this kind should deal with geological history by means of a summary of stratigraphy as known to us in the British Isles. Would it not seem better to widen the view of the beginner by letting him know something of the great features of life-progress on the earth? The unconformities mentioned on p. 218 have no importance, except for the specialist in western Europe; nor are the names Lewisian and Torridonian at all comparable in value with those of the other systems classified in the table, which relate nowadays to no one special country. The real interest of the Carboniferous flora is not conveyed by the statements on p. 269; nor is the development of flowering plants fairly represented on p. 311, in view of discoveries outside our islands.

This introspective point of view, which has been impressed on us for fifty years by university curricula, forces the general reader to meet such things as Coniston Limestone, Blae Wyke Beds, Kimeridge Clay, and Lower London Tertiaries, and leaves him ignorant of the Permo-carboniferous ice-age, and of the immensely interesting development of life-forms and existing land-areas throughout Cainozoic times.

Dr. Dwerryhouse, however, deals excellently with the Pleistocene ice-age, taking here a bold wide survey. As minor criticisms, we do not like the term "Ammonoid" on p. 293, as applied only to forms intermediate between Nautiloids and "the Ammonites." Something seems omitted in the account of the origin of columnar structure on p. 317; the "forces acting at right angles to *ab* and towards 1 and towards 2" are just as "equal and opposite" as those differentiated from them by these terms. The whole point seems to lie in their directions.

It will be seen that this attractive book admirably fulfils its purpose. Any limitations in the last few pages cannot for a moment be ascribed to narrowness of outlook in the author. G. A. J. C.

OUR BOOK SHELF.

British Weights and Measures. As Described in the Laws of England from Anglo-Saxon Times. By Col. Sir C. M. Watson, K.C.M.G., C.B. Pp. xii+107. (London: J. Murray, 1910.) Price 2*s.* 6*d.* net.

THIS is an account of the history of weights and measures in England from the time of the Anglo-Saxons to the present day. It is meant to be of a popular character, and is written in an attractive manner, but as it includes the results of independent researches by the author, it may be of some interest to archæologists as well as to the general public. Sir Charles Watson appears to be an opponent of the introduction of the metric system in this country, and his book is in part intended to show that our present system rests on the experience gained by many centuries of legislation, and accordingly should not be abolished hastily in favour of a system of foreign origin and of comparatively recent date.

An interesting account is given of the various "pounds" which have been in use in England. The author is of opinion that the term "troy weight" is derived from an old English word "troi," signifying a balance, and that "avoirdupois" was a generic word used with respect to articles of considerable weight relatively to their value, which were sometimes weighed by a kind of Danish steelyard, or desemer, known as an "auncel." His identification of the gallon of Edward I. with the wine gallon of Queen Anne is not very convincing. He gives a good account of Gunter's chain, which he considers an excellent example of the kind of improvement that can be made with advantage in a system of weights and measures without introducing a new standard of measurement.

On the whole, the author is to be congratulated on having produced an eminently readable book on a subject which is often treated tediously. Some of his suggestions for the simplification of the British system given in the concluding chapter are deserving of consideration, but the proposal to abolish apothecaries' weight would be unlikely to meet with support in the professional circles mainly concerned.

On p. 24, line 8, "three-quarters of a yard" should apparently read "a yard and a half."

Newcomb-Engelmann's Populäre Astronomie. Vierte Auflage. In Gemeinschaft mit den Herren Prof. Eberhard, Prof. Ludendorff, Prof. Schwarzchild, herausgegeben von Prof. P. Kempf. Pp. xvi+772. (Leipzig: W. Engelmann, 1911.) Price 14 marks.

PRACTICALLY a generation has passed away since Newcomb's "Popular Astronomy" was first published. Many popular works have appeared since, but they have not supplanted the original work in its entirety, or provided a better model to which continual extensions could be added.

The main intention of the author has been kept in sight in the present edition. He did not cater for the professional investigator or the special student, but he aimed at placing before the general reading public a condensed view of the history, methods, and results of those portions of astronomical research that possessed a popular and philosophic interest. Like the last edition, the present has been entrusted to the staff of the Potsdam Observatory. This is fitting, since it is precisely in the department of astrophysics—the direction to which the energies of the Potsdam astronomers are more specially devoted—that the greatest progress has been made and the greatest need for revision exists. But other astronomers have ably co-operated. Prof. Schwarzschild has rewritten the section on the determination of orbits, and revised the chapter on cosmogony. Seeliger supplies the most recent details on the distribution of stars; Prof. Kobold revises the cometary statistics; Dr. Schweydar writes on the figure of the earth, and discusses recent hypotheses concerning its internal constitution. In this section we should have been glad to see more extended references to the work of Hecker.

Other sections which have been rewritten or extended are those on stellar parallax (Ludendorff), physical constitution of stars (Eberhard), motions of stars

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(Ludendorff), variable stars (Kempf), new stars (Eberhard). On the general scaffolding that Newcomb contrived, later artists, it will be seen, have created a more complete and elaborate building.

Gehirn und Rückenmark. Leitfaden für das Studium der Morphologie und des Faserverlaufs. By Dr. Emil Villiger. Zweite auflage. Pp. vii+278. (Leipzig: W. Engelmann, 1910.) Price 12.80 marks.

WHEN the first edition of this book was reviewed in NATURE some four years ago, we then admired the lucidity of its style, and the excellent manner in which the author, Dr. Villiger, of Basle, arranged his description of the structure of the central nervous organ. The new edition is a considerable improvement upon the old. Beginning with a concise account of the embryology of the brain and spinal cord, the author proceeds to describe the gross anatomy of the brain, and illustrates his text by numerous excellent photographs and diagrams.

The second part of the work, dealing with the course of the various nerve-tracts and with the cranial nerves, is a model of luminous exposition. Many new diagrams have been substituted for those in the original edition.

The chief difference, however, is in the addition of an entirely new third part, consisting in a collection of more than fifty sections of the brain-stem. One set of these sections forms a series extending from the anterior end of the corpus callosum down to the corpora quadrigemina. The other series traces the structure of the various parts from the caudal end of the medulla oblongata upwards to the mid-brain. Each figure is accompanied by a full and descriptive text, so that the reader is provided with a fairly complete topographical atlas. Dr. Villiger's book bears the stamp of an expert teacher. It is difficult to give an adequate account of its many good points, and we trust that ere long it will become available to English readers in an authorised translation.

Thoughts on Ultimate Problems. Being a series of Short Studies on Theological and Metaphysical Subjects. By F. W. Frankland. Pp. xii+101. (London: David Nutt, 1911.) Price 1*s.* 6*d.* net.

THIS collection of studies on philosophical and religious subjects has now reached a fourth edition, which is sufficient proof that the author's treatment of profoundly important matters has appealed to a wide circle of readers.

LETTERS TO THE EDITOR.

[*The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of* NATURE. *No notice is taken of anonymous communications.*]

The Stinging Tree of Formosa.

THE stinging effect of the common nettle (*Urtica dioica*, L.) is so well known that even a cursory reference to it seems to be superfluous. This stinging power of Urticaceæ is found to culminate in the genus Laportea, which exhibits in certain species a most virulent effect enduring for some days, or even months, in response to a light touch on one of the leaves.

During my botanical tour in the southern part of Formosa in 1909 I observed, in the district of Kōshun, an endemic species of the stinging tree (*Laportea pterostigma*, Wedd.) growing not infrequently in the mountainous districts of that part of the island, where it is called by the natives "Chiao-jen-kou," meaning "Man-biting-dog." It is mentioned in the revised edition, completed in 1747, of a Chinese book, the *T'ai-wan-fu-chi*, or a "Topography of Tai-wan Prefecture [in the Island of Formosa]," vol. xviii., fol. 21,[1] where we observe the following statement:—

"'Chiao-jen-kou.' . . . This tree attains to a height of more than ten feet, with the leaves long and large, resembling those of the tobacco-plant, and furnished with stinging hairs, which, when they sting a man, enter the hair-follicles and become so irritating that if lightly rubbed the colour of the skin becomes red, and the pain continues for a day and a night, after which it ceases."

Dr. Augustine Henry, in his "List of the Plants of Formosa" (Trans. Asiat. Soc. Jap., vol. xxiv., Suppl., p. 88), has already made a reference to this tree, as well as to the *T'ai-wan-fu-chi*, by stating that it is "a small tree, the leaves of which sting violently, known colloquially and in the Gazetteer as 'Yao-jen-kou' [='Chiao-jen-kou']; " he refers to it again (*loc. cit.*, p. 12), saying that "the 'Stinging-Tree,' a species of Laportea, is very unexpected in its effects on anyone ignorant of its quality." Reference is also made to this tree in an article, by the same gentleman, on the "Botany of Formosa," published in the *Kew Bulletin*, 1896, p. 70.

My botanical friend who accompanied me during the greater part of my tour in Formosa, and has had considerable experience in connection with the flora of that island, told me the following anecdote when we both saw before us the stinging tree growing wild in the southern part of the island:—

"A Japanese traveller who happened to be alone in some mountainous district in Formosa, rubbed unconsciously a part of his body with a leaf of this tree, which stung him so violently that he ran in madness and cried in agony of pain, and it took a day or so before he recovered. In examining some leaves collected from the same tree, they were identified as belonging to those of 'Chiao-jen-kou.'"

After hearing the above anecdote, I suggested a Japanese name, "Mamushi-no-ki," or "Viper Tree," as a warning to all who hearing this name that they should not dare to touch the leaves in future. As I remember that I observed myself a small tree, partly cut down, close to a cottage situated near the coast in the small harbour of Tai-han-roku, it appears to me that this tree is not uncommon in the southern part of Formosa.

In Messrs. Forbes and Hemsley's "Index Floræ Sinensis," ii., p. 472, and in Drs. Matsumura and Hayata's "Enumeratio Plantarum Formosanarum" (Tokio, 1906), p. 382, this tree is enumerated, but no reference is made to its remarkable stinging effect. In Mr. Kawahami's useful "List of Formosan Plants," recently published by the Formosan Government, a Japanese name of "Irakusa-no-ki," or "Stinging-Nettle-Tree," has been newly coined. In consequence of its powerful effect of stinging, the Japanese name of "Irano-ki," or "Stinging Tree," might be more appropriate.

There are some other species of Laportea which exhibit, even when slightly touched, a remarkably poisonous effect. In Engler and Prantl's "Die natürlichen Pflanzenfamilien," iii., 1 Abteilung, p. 106, the following statement concerning *Laportea crenulata*, Gaud., of eastern India, is to be found:—"Bei leiser Berührung mehrere Tage dauernde Schmerzen hervorrufend." Weddell (in De Candolle's "Prodromus," xvi., par. 1, p. 85) made the following reference with regard to the stinging effect of the same species:—"Quod ad vires nocuas stimulorum attinet vid. monographiam meam [*i.e.* Weddell, 'Monographie de la famille des Urticacées,' in 'Archives du Muséum d'Histoire Naturelle,' ix., 1856]." In the *Gardeners' Chronicle*, 1882, vol. xviii., p. 465, we find the following extract from *Knowledge* concerning the stinging effect of this species:—"The Stinging Tree of Queensland, Australia, is a luxurious shrub, pleasing to the eye

[1] The revised edition, above referred to, of the *T'ai-wan-fu-chi*, has now become very rare in Japan. In 1895, when Formosa was ceded to Japan, some wood-blocks of the *T'ai-wan-fu-chi* were found to exist in Taihoku, and consequently a new impression was made by the order of the Formosan Government. But soon afterwards these wood-blocks were destroyed by a conflagration, with the exception of a few blocks, which are now preserved in the Government Museum at Taihoku. Even the new impression is now out of print, so that it is not too easy to obtain a copy in Formosa. I, however, lately secured a complete copy of an old (*i.e.* Chinese) impression in Tokio.

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